

REMARKS

Summary of the Office Action and this Amendment

On page 3 of the office action, the examiner states:

Claims 1-15 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guruprasad Bhat. (US PGPub No. 2003/0055808) in view of Weber et al. (Weber hereinafter)(U.S. PGPub No. 2002/0184360).

On page 22 of the office action the examiner states:

Claims 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guruprasad Bhat. (US PGPub No. 2003/0055808) in view of Weber et al. (Weber hereinafter)(U.S. PGPub No. 2002/0184360) as applied to claims 1-15 and 19-220 above, further in view of Guruprasad Bhat. (Gbhat hereinafter)(US PGPub No. 2003/0055862).

In this Amendment, the applicant has amended claims 1, 4, 19, and 20. Support for the amendments can be found, for example, in the specification on page 5, lines 13-21, and on page14, lines 3-5. No new matter has been added. Claims 1-20 are now pending in the application.

Claim Rejections - 35 U.S.C. 103

a. Legal Criteria for 35 U.S.C. 103

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

MPEP § 706.02(j) (8th ed., rev. 5, August 2006).

The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990).

MPEP § 2143.01 (8th ed., rev. 5, August 2006) (emphasis in original).

When applying 35 U.S.C. 103, the following tenets of patent law must be adhered to:

(A) The claimed invention must be considered as a whole;

(B) The references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination;

(C) The references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention; and

(D) Reasonable expectation of success is the standard with which obviousness is determined.

Hodosh v. Block Drug Co., Inc., 786 F.2d 1136, 1143 n.5, 229 USPQ 182, 187 n.5 (Fed. Cir. 1986).

MPEP § 2141 (8th ed., rev. 5, August 2006).

In determining the differences between the prior art and the claims, the question under 35 U.S.C. 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious. *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983); *Schenck v. Nortron Corp.*, 713 F.2d 782, 218 USPQ 698 (Fed. Cir. 1983).

MPEP § 2141.02 (8th ed., rev. 5, August 2006).

c. Discussion Regarding the 35 U.S.C. 103 Rejections

As mentioned above, in the office action all of the claims were rejected, under 35 U.S.C. 103(a). Claims 1, 4, 19, and 20 are the independent claims currently pending in the application. The applicant has amended all of the independent claims herein, and the applicant submits that all of the independent claims as amended herein include limitations that are not described in the references.

Claims 1, 19, and 20:

Claims 1, 19, and 20, as amended herein, include the following limitations:

wherein obtaining information from the CIMOM includes, given the unique ID for the Disk Array System, obtaining, in one step: information regarding all component Storage Pools of the Disk Array System[[,]] and [[obtaining]] information regarding all component Volumes of the Disk Array System;

On page 5 of the office action, in the discussion of the rejection of claim 1, and on page 21 of the office action, in the discussion of the rejection of claims 19 and 20, the examiner states:

Weber discloses ... “wherein obtaining information from the CIMOM includes, given the unique ID for the disk array system, obtaining information regarding all component storage pools of the disk array system, and obtaining information regarding all component volumes of the disk array system” as (Weber Paragraph 0103)

Paragraph 0103 from Weber, which is cited by the examiner in the paragraph above, states:

In addition to obtaining device properties from devices 806, monitor thread 824, and RPC agent threads 826 for each device may be configured to monitor each device 806 for configuration changes or other device events. In accordance with this aspect of the present invention, discover-monitor applet 822 prepares for event listening by starting a management protocol "event listener" thread, which detects events from the device via the "Hanging AEN" protocol. Monitor thread 824 on management station 802 preferably acts as the event listener thread, and starts the hanging AEN event in much the same way as the other RPC agent threads are started. That is, event listener thread or monitor thread 824 in management station 802 establishes a connection to the RPC connection listener 814 in server 804 (step 8J), which initiates an RPC agent thread 826 (step 8K). For device monitoring, the agent thread 826 preferably is configured for hanging AEN listening, and thus, initiates a hanging AEN listen primitive on controller 806, and in particular management protocol server 828.

After careful analysis of the above paragraph, the applicant submits that paragraph 0103 from Weber does not, in any way, teach or suggest the following limitations from claims 1, 19, and 20 (which are also reproduced above):

wherein obtaining information from the CIMOM includes, given the unique ID for the Disk Array System, obtaining, in one step: information regarding all component Storage Pools of the Disk Array System[[,]] and [[obtaining]] information regarding all component Volumes of the Disk Array System

The applicant submits that Weber does not teach or suggest the above limitations, even if the wording “in one step”, which was added in this amendment, is not included in the claims. Further, the applicant submits that the references do not teach or suggest the “in one step” limitation, which was added to the claims in this amendment.

Additionally, claims 1, 19, and 20 have been amended herein to include the following limitations, which the applicant submits is not taught or suggested by the Weber or any of the other references:

wherein obtaining information from the CIMOM further includes obtaining, in one step: information about all Disk Array Systems managed by the CIMOM, and information about all Volumes, Disks, Disk Groups, and Storage Pools corresponding respectively with each of the Disk Array Systems managed by the CIMOM, and information about relationships between all of the corresponding Volumes, Disks, Disk Groups, and Storage Pools....

In addition to the other novel and non obvious limitations of the preceding paragraph, which has been added to claim 1, 19, and 20, the applicant submits that the limitation “in one step”, which is included in the preceding paragraph, is not taught or suggested by the references.

Claim 4:

Claim 4 as amended herein, recites:

A machine readable data storage medium tangibly embodying a program of machine-readable instructions executable by a digital processing apparatus to perform a method for responding to an inquiry, the method comprising the following operations:

identifying a Disk Array System as a class of device to be managed;

identifying subcomponents of the Disk Array System;

receiving the inquiry;

receiving a unique ID for the Disk Array System;

obtaining information from a CIMOM;

wherein obtaining information from the CIMOM includes, given the unique ID for the Disk Array System, obtaining, in one step: information regarding all component Storage Pools of the Disk Array System and information regarding all component Volumes of the Disk Array System;

creating at least one Storage Object, wherein creating the at least one Storage Object includes identifying entities attached to the Disk Array System, and identifying parent-child relationships between the entities;

populating the at least one Storage Object with information received from the CIMOM;

sending the at least one Storage Object to a calling function;

wherein the at least one Storage Object includes a Storage Object corresponding with the Disk Array System;

wherein obtaining information from the CIMOM includes obtaining, in one step: information about all Disk Array Systems managed by the CIMOM, and information about all Volumes, Disks, Disk Groups, and Storage Pools corresponding respectively with each of the Disk Array Systems managed by the CIMOM, and information about relationships between all of the corresponding Volumes, Disks, Disk Groups, and Storage Pools;

wherein the operations are performed as an intermediary between a CIM client application and a CIM Client API;

wherein each Storage Object is created by using a Java package comprising classes that define a plurality of storage entity objects;

wherein the plurality of storage entity objects include Disk Array System, Storage Pool, Volume, Host System, FCPort, and Disk, objects;

wherein the Disk Array System object is a top level object;

wherein at least one object other than the Disk Array System object is a subcomponent of an object other than the Disk Array System object;

wherein the creating operation comprises creating a plurality of Storage Objects, and wherein the Storage Objects have associations to each other that are consistent with corresponding storage entities' relationships modeled in a SMI/Bluefin profile;

wherein the creating operation comprises creating a plurality of Storage Objects, and wherein properties of each Storage Object map directly to properties of at least one CIM Class used to represent a corresponding storage entity;

wherein the inquiry is received from a SRM CIM Client Application;

wherein receiving the inquiry includes receiving a unique ID for a Storage Pool, and wherein the operations further comprise obtaining a Storage Object corresponding with the Storage Pool, given the unique ID for the Storage Pool;

wherein the inquiry includes the unique ID of a designated storage entity, and comprises a request for all storage entities of a specified type associated with the designated storage entity;

wherein the inquiry includes the unique ID of an identified top level storage entity, and wherein the receiving, obtaining, creating, populating, and sending operations are repeated to obtain

information concerning the identified top level storage entity and all of the components of the identified top level storage entity.

The applicant submits that the references do not teach or suggest all of the limitations of claim 4. As an example, the applicant submits that the following limitations of claim 4 are not taught or suggested by the references: “wherein the operations are performed as an intermediary between a CIM client application and a CIM Client API.”

Further, the applicant submits that there is no suggestion or motivation, in the references or in the knowledge generally available to one of ordinary skill in the art, to combine reference teachings to produce the unique combination of limitations recited in claim 4. Thus, claim 4, as a whole, would not have been obvious.

In conclusion, the applicant submits that the references do not teach or suggest all of the limitations of claims 1, 4, 19, and 20, and that there is no suggestion or motivation to combine reference teachings. Consequently, the applicant submits that the claim rejections should be withdrawn.

Amendments, and Dependent Claims in General

The applicant submits that all of the dependent claims are novel and nonobvious for at least the reasons discussed above with regard to the independent claims. Some of the claim amendments in this amendment were made to clarify the wording and to correct typographical errors.

Conclusion

In summary, the applicant respectfully submits that the claims as presented herein are novel and nonobvious. In conclusion, the applicant respectfully submits that the application is in condition for allowance, and the applicant requests reconsideration and further examination, and allowance of the application. Any additional fees required in connection with this amendment that are not specifically provided for herewith are authorized to be charged to Deposit Account No. 09-0466 in the name of International Business Machines Corporation.

Respectfully submitted,

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